ASSESSING THE KNOWLEDGE, EXPERIENCES, AND COVID -19 COPING STRATEGIES AMONG HEALTH WORKERS IN A PRIVATE HEALTH FACILITY OF THE GREATER ACCRA REGION, GHANA

(A Cross-Sectional Study)

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***Abstract*: The aim of this study was to explore the knowledge, experiences, and adopted coping mechanisms of health workers in a private health facility in the Greater Accra region.**
Methods: This was a prospective study conducted during Covid 19 period. It was a 19 days data collection period beginning on 7th April 2020 during the national lockdown period The study used a quantitative method with a cross-sectional design to administer a questionnaire through an electronic link (Redcap) to staff from all the various units of the health facility. The redcap tool which was used to collect the data from entries made were edited, coded, transcribed, cleaned, and analyzed using Microsoft Excel tool 2019 and SPSS version.26.0 and the results were presented in descriptive statistics such as frequencies, percentages, tables, and figures
Findings: Ninety-two (92) staff participated in the study with representatives from each department/ unit; Records, Accounts, Inpatient wards, etc. The study respondents had a mean (SD) age of 33.8 (6.2) years with minimum and maximum ages were 21.0 years and 63 years. The female staff constituted a high proportion of the respondents with a percentage of 56.5%. The results showed that 17.4% of the respondents had Excellent knowledge of Covid 19, whiles 51.1%% had very good knowledge and 6.5% had average knowledge. Their knowledge was high and more significant than expected and it had a statistically significant difference of 1.79 marks [(95% CI, 1.63 to 1.96), t (91) =21.3, p-value = 0.00]. The majority of staff (66.7%) practiced standard preventive measures and faith (prayer). The facility withdrew some services such as Health Education, Non-effective focus antenatal service, and contact hours of healthcare providers to prevent infection rate.
Conclusion
This study found that 68.5% of the staff was highly knowledgeable and statistically significant. The Covid-19 Impact was very high on the staff. The major coping system was the application of faith and prayer with the practice of standard preventive measures of Covid 19 pandemic.

***Keywords*: Knowledge, Experiences, Coping Strategies, Covid-19**

Introduction:

Pandemic Covid 19 is a fatal disease caused by the novel coronavirus (Kotian, Faujdar, Kotian, & B., 2020). The effects of this on human beings cause respiratory, gastrointestinal, and central nervous system diseases (Putrino, Raso, Magazzino, & Galluccio, 2020). The first two cases recorded in Ghana were confirmed and after being announced publicly on the 12th of March 2020 the incidence rose rapidly and was recorded 44,298 the by first week in September 2020 with a number of deaths of 276 (Worldometers, n.d). The period and beginning space of the onset of the pandemic came with a large amount of uncertainty. According to Rutter, Wolpert, and Greenhalgh (2020), "The covid-19 pandemic is maturing, but uncertainties continue to multiply both for individuals and policymakers. Should I return to work? Should I visit relatives? Which businesses should re-open? What about schools and universities?" (Rutter, Wolpert, & Greenhalgh, 2020).It is, therefore, necessary for knowledge and experience to be shared in other to prevent more spikes in the infection rate. Knowledge, perception of transmission, and control of Covid 19 infection play an essential role in preventing and dealing with spikes of the disease in healthcare settings (Hasford, Sosu, Awua, Rockson, & ENB., 2020). This study assessed the level of knowledge on Covid 19 infection, experience, and coping mechanisms of healthcare workers.

Methodology

This was a prospective study conducted during Covid 19 period. It was a 19 days data collection period beginning on 7th April 2020 during the national lockdown period The study used a quantitative method with a cross-sectional design to administer a questionnaire through an electronic link (Redcap) to staff from all the various units of the health facility. The redcap tool which was used to collect the data from entries made were edited, coded, transcribed, cleaned, and analyzed using Microsoft Excel tool 2019 and SPSS version.26.0 and the results were presented in descriptive statistics such as frequencies, percentages, tables, and figures

Inclusion Criteria: Health staff on duty during the period of study

Exclusion Criteria: Staff on leave

Study Area

This study was carried out in a private health facility in the Greater Accra region of Ghana. The facility has been in operation for 15 years and has several departments such as medical and emergency, surgery, dentistry, pediatric, ophthalmology, etc. It has 106 professional health staff.

Data collection:

Statistical Analysis

The Statistical Package for Social Sciences (SPSS V 25.0) was used to analyze the data employing descriptive and inferential statistics. The data were presented as means and standard deviations for continuous variables symmetrically distributed but as median and interquartile ranges for skewed continuous variables relationship. The questionnaire was mostly closed questions and the other parts were open, dichotomous, and five Likert scale questions. The dichotomous and open questions questionnaire assessed their knowledge, experience and coping mechanism, and recommendations. The Likert choices chosen by the respondent was summed and used for further analysis. Knowledge questions were scored and graded over 6 marks and a t-test statistic was used to find if the mean knowledge of the respondents was significantly different from the standard knowledge expected.

Ethical Consideration: Ethical Clearance was sought from the Institutional Review Board of the Hospital.

Results:

Characteristics of Respondents

The study respondents had a mean (SD) age of 33.8 (6.2) years with minimum and maximum ages were 21.0 years and 63 years**.** The majority of the staff participants were in the age group 31-40yearsears (59.8%) with a few 9.8% aged over 40 years. The female staff constituted a high proportion of the respondents with a percentage of 56.5%.

Table 1: Characteristics of Respondents

Variables	N (%)
Mean Age (years)	33.8±6.2years
Age groups	
< 20 years	0(0.00)
21-30years	28(30.4)
31-40years	55(59.8)
> 40 years	9(9.8)
Sex	
Male	40(43.5)
Female	52(56.5)
Length of Service Profession	7.8(±4.7)

Grouped Profession	
<4years	20(22.5)
5-9years	37(41.6)
10-15years	24(27.0)
16years>	8(9.0)
Mean Duration at Dept/Unit	5.27 ±2.4
<4years	66(71.7)
5-9years	12(13.0)
10-15years	5 (15.4)
16years>	9(9.8)

The majority (71.7%) of the staff had worked for less than 5 years in their department/ units, a very few of them had worked for 16 years and more, forming 9.8%. Nine different departments/units participated in the study with different professions. The majority of them were from the theatre and pharmacy department /units,16.3% and 14.1% respectively. 33.3% of the staff were nurses with the rest of the professions following in that order.

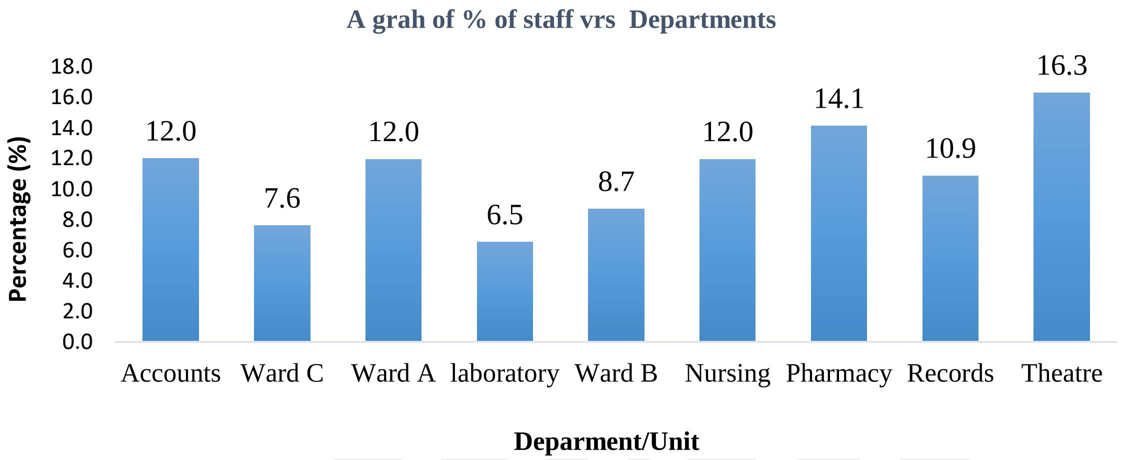

Figure 1: Departments of Respondents

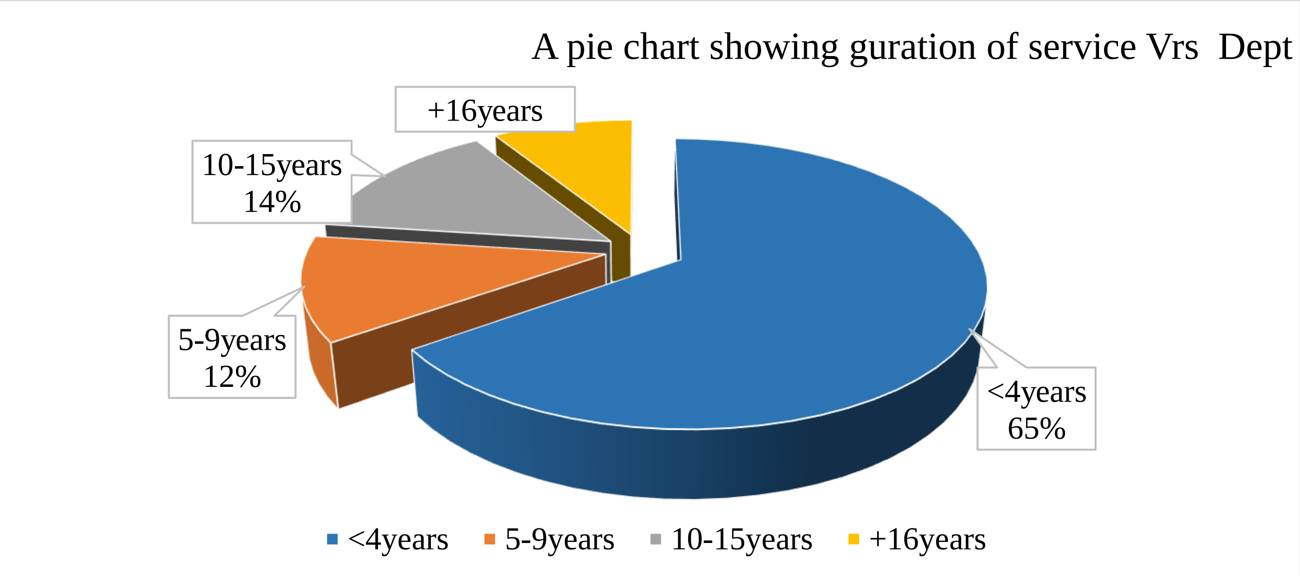

Figure 2: What is the duration of Service at your Department/Unit?

Staff's Knowledge of Covid 19

A total of six (6) knowledge questions were asked. Responses from the respondents were summed and graded. The classifications of correct responses were grouped into three classes; average (3 marks), above average (4 marks), very good (5 marks,) and excellent 6 marks). The results showed that 17.4% of the respondents had Excellent knowledge of Covid 19, whiles 51.1%% had very good knowledge and 6.5% had average knowledge.
One sample t-test was used to test if the respondents' knowledge score was different from the standard knowledge requirement score of 3 marks by the facility.

Table 2: Covid 19 knowledge score & grading of respondents

Scores	Frequency	Percent (%)	Cum. Percent (%)
3 corrects	6	6.5	6.5
4 corrects	23	25.0	31.5
5 corrects	47	51.1	82.6
6 corrects	16	17.4	100.0
Total	**92**	**100.0%**	

The results show that the average knowledge score gotten as 4.79 (± 0.81) marks was higher than the knowledge baseline mark or score of "3". With a statistically significant difference of 1.79 marks [(95% CI, 1.63 to 1.96), t (91) =21.3, p-value = 0.00], the average score of 4.79 marks which is the average score of all the respondent's responses (1.79 difference from the knowledge baseline) is statistically significant ($p < 0.05$). This interprets that the average knowledge score of 4.79 marks (and all higher marks) was not a result of chance. (See Appendix).

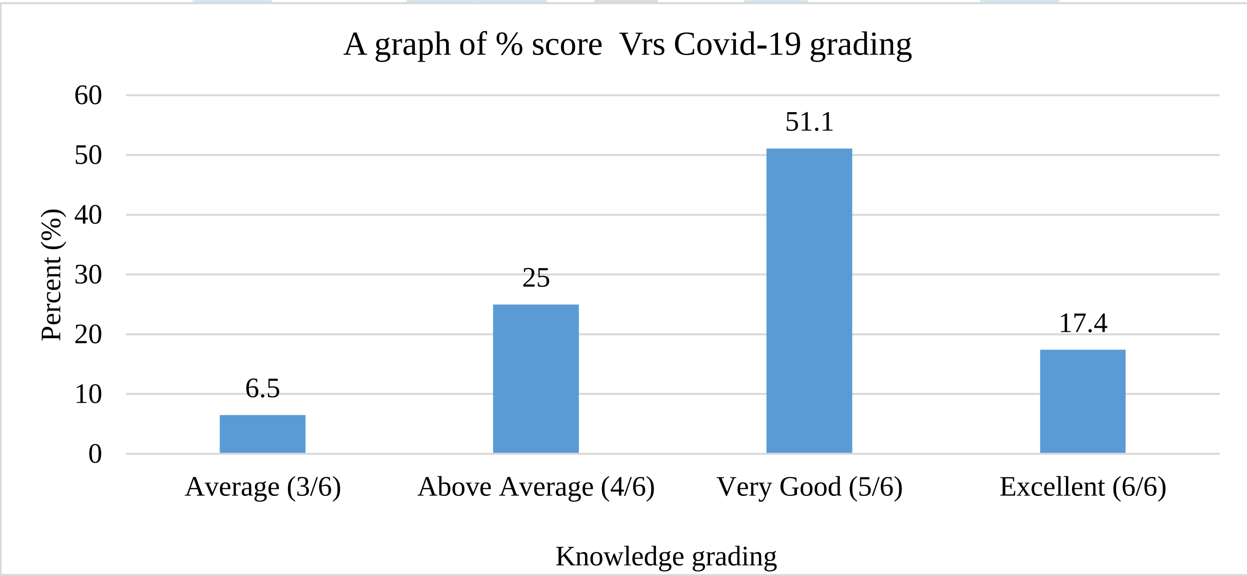

Figure 3: Covid-19 knowledge grading of respondents

Source of Information
The sources of information concerning Covid 19 where the staff received their information. The top three sources of information for knowledge were mostly internet sources, social media, and the hospital itself. It was followed by Ghana Health Service and the other sources as seen in the figure below. Most of the staff had information from two more sources

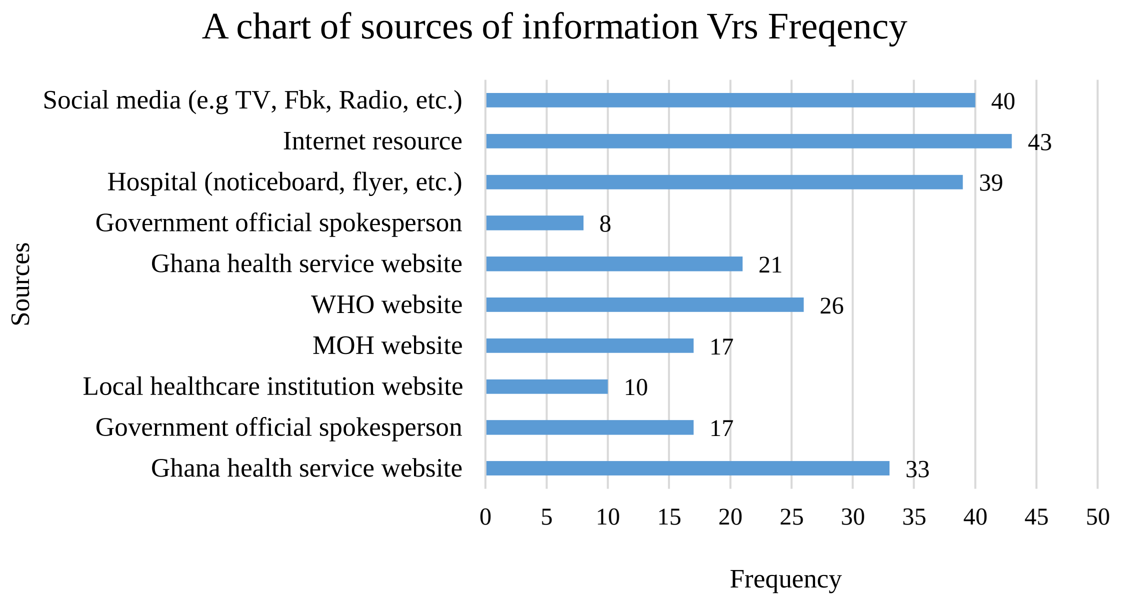

Figure 4: Source Covid 19 information of respondents

Staff Experiences of Covid 19

Staff claimed that the impact of Covid 19 on them was “very high” 29(31.53%) and it also reflected in “how unsafe” they felt in reporting to work., however, they were satisfied or very satisfied 65(72.8%) with the level of preparation implemented by the unit (table 3). Only a few 38.5% claimed there was a protective plan in place for them (Figure 5 below)

Table 3: Staff experiences of Covid 19

		Frequency
How COVID 19 has impacted you personally	Very low	5(5.4)
	Low	4(4.3)
	Neutral	31 (33.7)
	High	23(25.0)
	Very high	29 (31.5)
How safe do you feel coming to work?	Very unsafe	28 (30.4)
	Unsafe	9(9.8)
	Neutral	42(45.7)
	Safe	11(12.0)
	Very Safe	2(2.2)
Describe your level of satisfaction with respect to the Unit's/dept level of preparation	Very much Unsatisfied	12(13.0)
	Unsatisfied	13(14.1)
	Satisfied	32(34.8)
	Very satisfied	35(38.0)

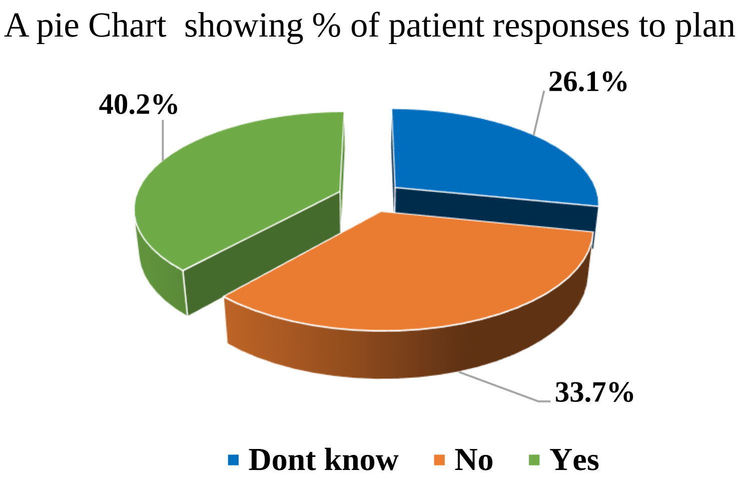

Figure 5: Is there a protective plan in place for you in case of attractive the disease?

Coping and Preventive Measures by Staff at Workplace

The practice of preventive measures was mostly practiced by the majority of the staff as compared to those who did not practice. The frequently practiced prevention measure was handwashing, this was done by all staff. They either practiced mostly (35.9%) or always (64.1%). The least practiced preventive measures were social distancing. The majority of them 92.4% practiced the frequent use of hand sanitizer. The majority of the staff when it came to how they cope did not alone practice standard preventive measures but attached their faith (prayer) to the preventive measures. This was the coping mechanism of 66.7% of the staff. Very few of them depended on "faith only" as their coping mechanism (figure 6). To also prevent the spread of Covid 19 and also complement the efforts of staff preventive strategies, certain services were withdrawn from the various units. The services withdrawn varied from unit to unit, the services withdrawn differed across the units (see appendix). Some of these services withdrawn were Health Education, Non-effective focus antenatal service, contact hours of healthcare providers and clients are been minimized, etc.

Table 4: Preventive Measures by Staff at Workplace

Preventive Strategies	**Responses**	**N (%)**
How Often do you practice Frequent Hand washing?	Mostly	33(35.9)
	Always	59(64.1)
How Often do you practice Social Distancing?	Not often	3(3.3)
	Sometimes	19(20.7)
	Mostly	38(41.3)
	Always	32(34.8)
How Often do you practice Wearing Face Masks?	Sometimes	17 (18.5)
	Mostly	37 (40.2)
	Always	38 (41.3)
Often practice the Frequent use of Hand Sanitizer?	Sometimes	7 (7.6)
	Mostly	34 (37.0)
	Always	51 (55.4)

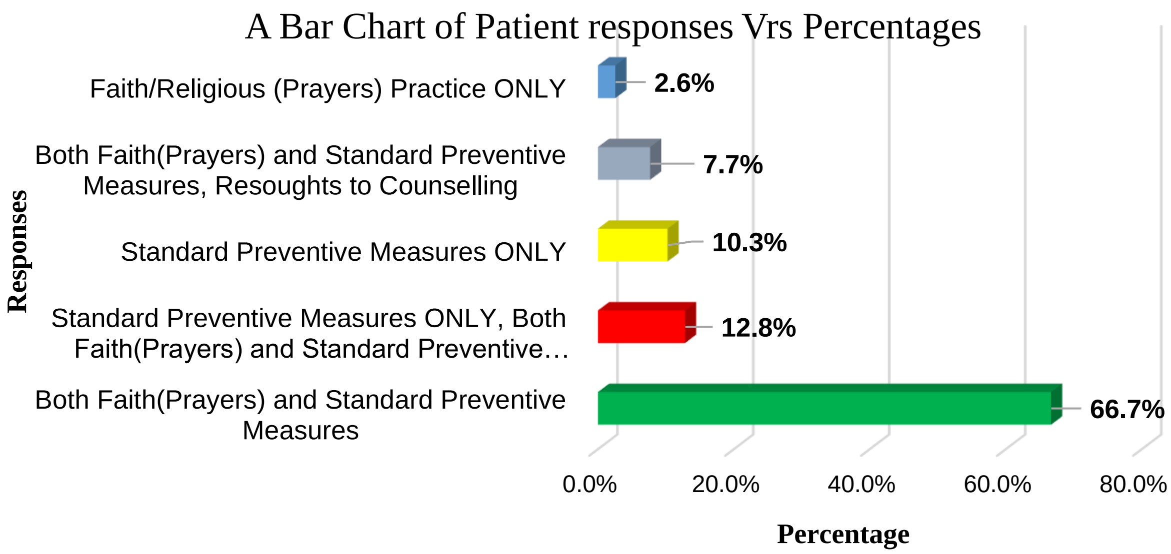

Figure 6: How do you cope with Covid 19?

Precautionary Measures Taken by Staff to Ensure Family Safety.

Precautionary measures mentioned by staff were classified under emerging preventive themes from their responses when they were asked, "What precautionary measures do you take to ensure your families are safe when you approach home?" These were Bathing, Handwashing, Undressing & Drying, and Sanitizing.

Bathing

The staff mentioned that they have to bathe after the close of work and some others did so right when they got home as a preventive measure of not transmitting any infection including Covid 19. The proportion of staff who practiced this constituted 69.2%. However, they also practiced one or more other preventive measures in addition to this measure.

Hand washing

Forty-Nine (49) constituting 53.2% mentioned hand washing practice as the most frequently practiced as compared to practicing all the other preventive measures.

Social distancing

Only a few (17.9%) staff mentioned social distancing. This category included all staff who mentioned preventive measures such as "no handshaking", "no hugging", "no close contact", "space out when sitting or talking" etc. They always practiced these precautionary measures frequently when they get home, although practiced the other precautionary measures.

Undressing & drying personal belongings

This category included all who mentioned measures like "removal of clothing, shoes, apparel, etc.", and "Drying of clothing/dresses, Shoes, etc." They always practiced this precautionary measure with the other precautionary categories as soon as they got home. They constituted 33.3% of the entire respondents.

Sanitizing

The frequent practices in this category were hand sanitizing, Item sanitizing, etc. The staff mentioned that they did hand sanitation, and some mentioned sanitizing their belonging with spirits, etc. Few **(20.5%)** mentioned hand sanitation. They as well adopted other measures alongside.

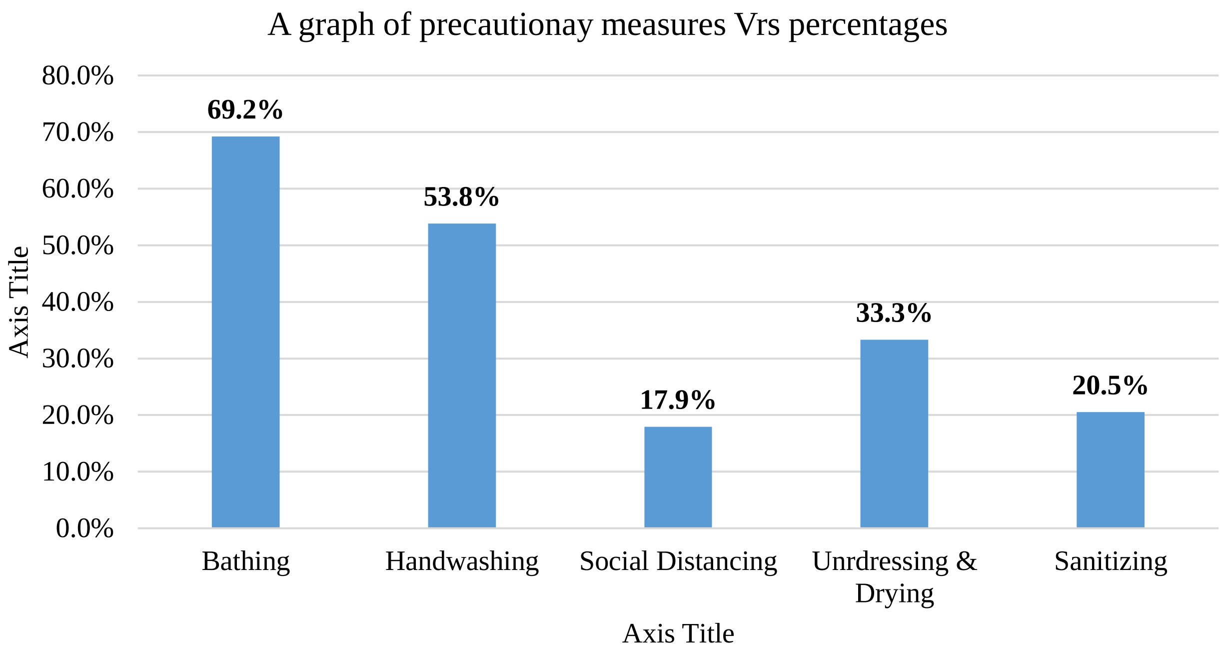

Figure 7: Emerging Precautionary Measures for family safety practiced by Staff.

Staff Recommendation for Provision of safety measures by Management

The most notable recommendation from staff was the procurement of more PPEs, Sanitizers, Face masks (N95 mentioned frequently), and Protective clothing/ Coveralls. Some mentioned provisions of Protective policy and plans. However, some mentioned that they were satisfied with the prevention strategy they had in place already. The Administration requirements are also below.

Table 5: What do you recommend your unit/Department put in place for safety?

Administrative Recommendations	**No.**
Good incentive packages	3
Stock screening center with PPEs and Intensify and have proper screening for all clients before entering the hospital	1
Provide and make sure all protective measures are put in place	1
They should keep doing what they are already doing. This time is not easy for anyone.	1
Risk policy should be put in place	1
Availability of transportation or some allowance for t & t for those who stay far from the workplace	1
Everything is already in place	1
For now, I think what they are doing for my department is okay it is up to us in the department to follow the standard protection measure to be safe from the virus	1
There must be triage and also an isolated place where patients will question before entering the facility	1
Ensure every employee is practicing very good personal hygiene and following all measures	1

Logistics Recommendation	No.
Protective PPEs	11
Protective clothes especially at the OPD (nurses)	4
More hand washing and wearing a Face mask	2
Staff should regularly wash their hands	1
Antiseptic, tissues, PPE, face mask, sanitizers, and Veronica backers for hand washing, etc.	1

Veronica buckets, Hand sanitizer, gowns, and tissues	1
More personal awareness of the seriousness of this pandemic	1
Bottle of sanitizer in the office to be used after every folder served. Currently, we come out to use the	1
Sanitizer in our unit so we can sanitize after serving a prescription instead of using the central one.	1
Sanitizers, face mask, face shield, overalls, N95	1
Sanitizer use and regular hand washing	1
N95 respirator for all staff. Cloth masks are not effective.	1
Availability of face mask and gloves	1
We need coveralls, face shields, more face masks, and more hand alcohol-based sanitizer.	1

Discussion

The survey established that staff who were healthcare workers had very good (51.1%) and excellent (17.4%) knowledge of Covid 19. Their knowledge was high and more significant than expected and it had a statistically significant difference of 1.79 marks [(95% CI, 1.63 to 1.96), t (91) =21.3, p-value = 0.00]. Comparing a study conducted in Nepal found that the majority (63.2%) of the healthcare workers were much knowledgeable about Covid 19 as well practice preventive measures to minimize the spread of infection (Shrestha, et al., 2021). These outcome findings were similar to other studies conducted in China (Bi, et al., 2017), India (Malik, et al., 2020) Saudi Arabia on respiratory syndrome coronavirus (MERS-CoV) (Aldowyan, Abdallah, & El-Gharabawy, 2017) and in Ghana (Hasford, Sosu, Awua, Rockson, & ENB., 2020)

Television and Radio were the next high source of information aside internet source in a study this is similar to another study which claimed "Television and radio were significantly associated with the knowledge and attitude of the respondents as a higher level of knowledge was associated with those who get information via TV and radio" (Shrestha, et al., 2021) and also confirms a claim from BBC that "TV and radio are the reliable Medias" (BBC, n.d)

The respondents did not use only one kind of measure to cope with the Covid 19 stressor, especially with the preventive measures, they felt the need not only depend on that but add prayers or their faith to it. This may confirm a claim that "if coping resources turn out to be inadequate, an individual experience a negative psychological state of stress, which can include an increase of perceived stress and mood deteriorations" (Cohen, Janicki-Devert, & Miller, 2007, pp. 1685–1687).

Limitations of the study: Some variables in the data were missing.

Conclusion:

This study found that staff was highly knowledgeable 68.5% and statistically significant from the expected and Covid 19 impact was very high on the staff. The major coping system was the application of faith &prayer with the practice of standard preventive measures of Covid 19 pandemic.

Recommendations: Further studies on this subject with the view of deepening knowledge on coping strategies.

Conflict of interest: Authors declare that they have no conflict of interest to declare.

Acknowledgments: The head of Unit, Department of Surgery, (KBTH), Staff of The Biostatistics unit (KBTH), Korle Bu Teaching Hospital (KBTH), The Records Unit, Department of Surgery, all the nurses and participants.

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APPENDIX

Figure A: Preparedness in managing Covid 19 case

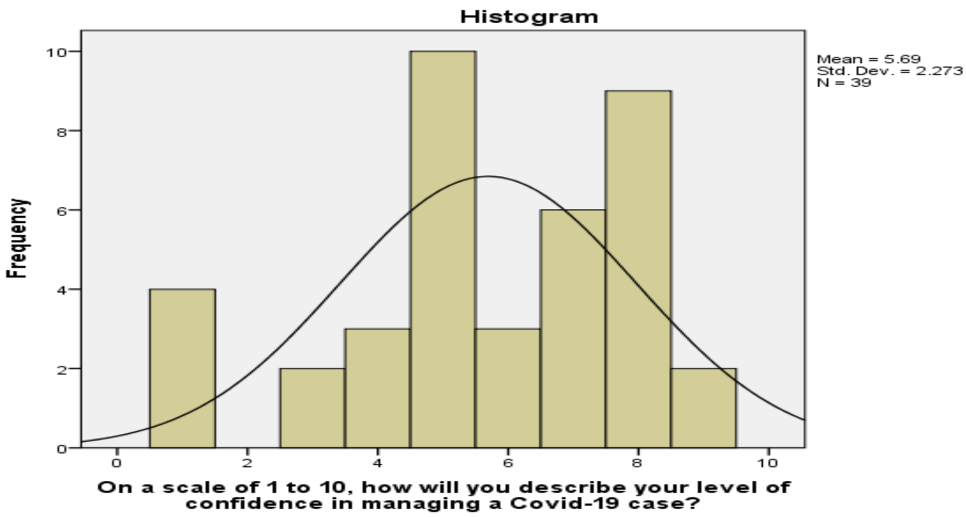

Table C: level of confidence

Statistics

On a scale of 1 to 10, how will you describe your level of confidence in managing a Covid-19 case?

N	Valid	39
	Missing	2
Mean		5.69
Median		6.00
Mode		5
Skewness		-.646
Std. Error of Skewness		.378

Table A: Service withdrawn from various units.

Unit?	**What services have been withdrawn from your unit as a result of COVID 19?**
Account Unit	General meetings and presentations, physician's clinic, stakeholders' meetings
	Now I go to work 3times a week

	The number of visitors and visiting time has being reduced
Accounts	None
Ward A	Antenatal
	Surgical cases have been withdrawn unless is emergency
Ward B	A.N.C group meeting are cancelled
	Close contact among patients
	No ANC group Heath talk
	Too much closer to the patient
laboratory	We have isolation Centre and a sink just in the hospital yard
Ward C	Encourage social distancing, hands washing regularly and face mask
	Encourage social distancing, hands washing regularly and face mask
	Social distance, handshake
Nursing Unit	Birth and death registration
	Emergency response care have been added to the unit
	Everything is going on successfully
	No service has been withdrawn
	Number of patients has reduced
Pharmacy	Closeness to patient
	Patient closeness during dispensing
Records	Duty to work has been reduced
	Physician specialist consultations
	Physician specialist consultation
Theatre	Elective Cases
	Number of relatives visiting patients on admission
	Number of relatives visiting patients on admission
	Number of relatives visiting patients on admission
	Number of relatives visiting patients on admission
	Suspected cases are isolated and referred

One-Sample Statistics

	N	Mean	Std. Deviation	Std. Error Mean
Knowledge	92	4.79	.806	.084

One-Sample Test

	Test Value = 3					
					95% Confidence Interval of the Difference	
	t	df	Sig. (2-tailed)	Mean Difference	Lower	Upper
Knowledge	21.350	91	.000	1.793	1.63	1.96